

October 4th, 2010

Carl Goldstein
Program Manager
Pacific Islands Office
USEPA Region IX
75 Hawthorne Street
San Francisco, CA 94105

RE: OCEAN DUMPING PERMIT OD93-02 SPECIAL

Dear Carl:

Pursuant to the requirements of the above referenced permit, we are herewith submitting the Quarterly ocean dumping report for the period of July 2010 through September 2010 for COS Samoa Packing Company. No waste has been generated or transferred or dumped in this quarter. Enclosed are the following:

- * EPA Forms 1, 2 and 3.
- * Results of Monthly Onshore Storage Tank Analysis. No testing was done.
- * Letter to ASEPA reporting exceedances and irregularities during the 3 month period where applicable. There were no exceedances.
- * Monthly Site Monitoring Reports.
- * Results of Monthly Site Monitoring Analysis.

Please advise if additional information is required.

Sincerely,



Craig Double
Facility Manager
COS Samoa Packing Co.

APPENDIX B - REPORT FORM 1

Monthly Volumes of COS Samoa Packing Fish Processing Wastes Generated
Per Day and Volumes of Fish Processing Wastes Disposed at the Ocean Site

Month: July 2010

OD 93-02 Permit Limits	DAF Sludge Generated (gallons/day)	Precooker Water Generated (gallons/day)	Press Water Generated (gallons/day)	Total Generated (gallons/day)	Volume Ocean Disposed (gallons/day)
	60,000	100,000	40,000	200,000	200,000
July 2010	No waste for July			0	
Totals	0	0	0	0	0

Note: An asterisk(*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.

The number of violations are shown in the Monthly "Totals" row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate:

0 pounds/month

APPENDIX B - REPORT FORM 1

Monthly Volumes of COS Samoa Packing Fish Processing Wastes Generated Per Day and Volumes of Fish Processing Wastes Disposed at the Ocean Site

Month: August 2010

OD 93-02 Permit Limits	DAF Sludge Generated (gallons/day)	Precooker Water Generated (gallons/day)	Press Water Generated (gallons/day)	Total Generated (gallons/day)	Volume Ocean Disposed (gallons/day)
	60,000	100,000	40,000	200,000	200,000
Aug 2010	No waste for August			0	
Totals	0	0	0	0	0

Note: An asterisk(*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.

The number of violations are shown in the Monthly "Totals" row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate:

0 pounds/month

APPENDIX B - REPORT FORM 1

Monthly Volumes of COS Samoa Packing Fish Processing Wastes Generated
Per Day and Volumes of Fish Processing Wastes Disposed at the Ocean Site

Month: September 2010

OD 93-02 Permit Limits	DAF Sludge Generated (gallons/day)	Precooker Water Generated (gallons/day)	Press Water Generated (gallons/day)	Total Generated (gallons/day)	Volume Ocean Disposed (gallons/day)
	600,00	100,000	40,000	200,000	200,000
Sept 2010	No waster for September			0	
Totals	0	0	0	0	0

Note: An asterisk(*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.

The number of violations are shown in the Monthly "Totals" row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate:

0 pounds/month

APPENDIX B - REPORT FORM 2

Data Form for 3-Month Report on Waste Stream Analyses for COS Samoa Packing MPRSA 102 Permit #OD 93-02

Reporting Period: From July 2010 to September 2010

COS Samoa Packing - Onshore Storage Monitoring Report

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-Day Biological Oxygen Demand (mg/L)	Oil and Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)	Density (g/mL)
July-10									
August-10									
September-10									
OD 93-02 Permit Limits	64,590	58,780	87,780	48,630	2,820	11,070	5,200	5.8 to 7.5	.97 to 1.03

NOTE: An asterisk(*) next to the waste concentration signifies that an exceedance of the permit limit has occurred.

Cumulative Yearly Data on Fish Processing Wastes
Generated at COS Samoa Packing Company and Disposed at the Ocean Site
MPRSA 102 Special Permit #OD 93-02

Reporting Period: From 01 JAN. 2010 31 DEC. 2010

Month & Year	DAF Sludge Generated (gallons/month)	Cooker Water Generated (gallons/month)	Press Water Generated (gallons/month)	Total Generated (gallons/month)	Coagulate polymer (pounds/month)	Volume Ocean Disposed (gallons/month)
Jan. 2010	0	0	0	0	0	0
Feb. 2010	0	0	0	0	0	0
Mar. 2010	0	0	0	0	0	0
Apr. 2010	0	0	0	0	0	0
May. 2010	0	0	0	0	0	0
Jun. 2010	0	0	0	0	0	0
Jul. 2010	0	0	0	0	0	0
Aug. 2010	0	0	0	0	0	0
Sep. 2010	0	0	0	0	0	0
Oct. 2010						
Nov. 2010						
Dec. 2010						
Cumulative Yearly Totals	0	0	0	0	0	0

NOTE: A separate table shall be prepared for each calendar year.

Ocean Disposal Site Monitoring Report

(OD Permit 93-01 & 93-02)

01 July, 2010

Monitoring Vessel:	F/V Blue Moon
Discharge Vessel:	F/V Blue Moon
Chief Investigator:	Mike Crook
Starkist Samoa Liaison:	Joe Carney
COS/Samoa Packing	Craig Double
Determination of Sampling Positions:	All positions obtained by GPS Satellite Navigation

Mike Crook
P.O. Box 4933
Pago Pago, AS 96799
07 July, 2010

Introduction

On July 1, 2010 the tank-ship *Blue Moon* departed Starkist Samoa dock bound for the designated ocean dumpsite area approximately seven miles south of Pago Pago Harbor, American Samoa, on a routine wastewater disposal operation and for the purpose of monitoring this disposal of tuna cannery generated hi-strength liquid wastes into the waters of the Pacific Ocean. This monitoring and reporting were conducted in compliance with general permit conditions and Appendix A of Ocean Dumping Permits OD 93-01 & OD 93-02.

Chronology of Events

- 0510:** The *Blue Moon* departed Pago Pago Harbor bound for the dumpsite location with Master/Principal Investigator, Chief and Mate on board.
- 0600:** The *Blue Moon* entered the dumpzone circle @ 14°22.5' S / 170°38.7' W.
- 0610:** The *Blue Moon* arrived at the dump-zone center, where observed light southeasterly winds and slight southeasterly seas initially indicated disposal operations be conducted in the southeast dump-zone quadrant.
- 0622:** Control Station Monitoring. The *Blue Moon* arrived 1.1 nautical miles (NM) up-current or southeast (SE) of the dumpzone center, where discrete seawater samples were taken from depths of 1, 3, and 10 meters. Water temperatures, color, pH and observed sea/sky conditions with stations' position were recorded (Table 1). Seas at this time were slight with SE swells to 1.5 meters and a light SE breeze of 5 knots and the barometer reading 29.66. Current set and drift, of the ship, were to the northwest at 0.4 knots. No floating materials or sea life were observed here.
- 0635:** The *Blue Moon* began disposal operations in the SE dump zone quadrant and continued discharging material with a northeast to southwest reciprocal, elongated elliptical pattern, approximately 2.2 miles long (see Plot 1) until 0927 hrs.
- 0935:** Station One Monitoring. Discrete water samples were drawn from depths of 1, 3, and 10 meters. Water temperatures, pH, stations' position and water color observations were all recorded in Table 1. The SE winds had increased slightly to 7 knots with still, partly cloudy skies. The waste plume appeared here as elongate streaks of moderate glassy surface sheen extending in a NE to southwesterly direction and moving, generally, to the northwest. The current/wind drift of the ship was now GPS determined to be northwesterly @ 0.5 knots. No sea life or floatable materials were observed.

- 0945:** Station Two Monitoring. Station two was sampled with the same procedures as station one with measurements and observations being recorded in Table 1. This position showed a lighter glassy surface sheen than at Station #1, over clear natural blue appearing seawater. The average drift rate of the ship with current and wind was GPS determined to be northwesterly (NW) at 0.4 knots between stations 2 & 3 (See Plot #1). No sea-life or floatable materials were noted at this position.
- 0955:** Station Three Monitoring. Seawater samples were collected and measurements taken as with Stations 1 & 2. This position showed only some very light glassy surface sheen over clear blue water. The drift rate of the ship between Stations #3 & 4 was 0.5 knots, again, to the NW.
- 1005:** Station Four monitoring. Standard sampling procedures were again carried out as in previous stations. This position, 0.25 NM, NW of Station #3, showed the same visual characteristics of the waste plume as Station #1 with another large area of moderate to heavy surface sheen over natural clear blue water extending from NE to SW and roughly 2 miles long. There were no floating or suspended materials. The NW current/drift rate of the ship was again noted here to be at 0.4 knots.
- 1015:** Station Five monitoring. Sampling for this final station was conducted at the visual leading edge of the waste plume and approximately 0.35 NM southeast of the zone center. The leading edge of the waste plume was clearly visible at this location as an area of both heavy and light streaks of glassy surface sheen with clear, natural appearing blue waters further down-current to the NW. No notable sea life was observed at this position or any of the previous stations, other than a few random seabirds flying by. The final barometer reading was 29.67 when monitoring activities were concluded at 1022 hrs. The *Blue Moon* exited the disposal zone at 1035 hours and arrived back in Pago Pago Harbor to deliver the collected samples to the Starkist Samoa Co. laboratory at 1130 hours.

Prepared by M. Crook
Mike Crook, Principal Investigator

OCEAN DUMPING RESEARCH PERMIT: OD-93-01 & 02

Table 1

Date: 01 July, 2010	Sea Conditions: Slight w/ Southeast (SE) swells to 1.5 meters.					Wind: SE @ 5 - 7 knots	Sky: Partly Cloudy, 20 - 40%
	Barometer: 29.63 - 29.67		Current Set & Drift: Northwest @ average 0.45 knots			Visibility: Unlimited	
Time	Station	Depth (meters)	Temp. (°C)	pH	Odor	Color	
0622	Control	1	27.8	8.8	None	Clear and natural deep pelagic blue w/ no floating or suspended materials.	
		3	27.8	8.8			
		10	27.8	8.8			
0935	Station 1	1	28.3	8.7	Slightly Pungent	Moderate glassy surface sheen over deep pelagic blue w/ no floating or suspended materials.	
		3	28.3	8.7			
		10	28.3	8.7			
0945	Station 2	1	28.3	8.8	Slightly Pungent	Light, glassy surface sheen over deep, clear blue. No floating or suspended materials.	
		3	28.3	8.7			
		10	28.3	8.7			
0955	Station 3	1	28.3	8.7	Slightly Pungent	Very light, glassy surface sheen over deep, clear blue. No floating or suspended particulate materials.	
		3	28.3	8.7			
		10	28.3	8.8			
1005	Station 4	1	28.3	8.7	Pungent	Moderate to heavy oily surface sheen over clear blue w/ no suspended or floating particulates or scum etc..	
		3	28.3	8.7			
		10	28.3	8.8			
1015	Station 5	1	28.3	8.7	Slightly Pungent	Leading edge of the waste plume: A mix of both both heavy and very light streaks of glassy surface sheen with clear blue water beyond down-current to NW. No floating or suspended particulate materials	
		3	28.3	8.8			
		10	27.8	8.8			

SAMPLE STATIONS POSITIONS

	LATITUDE		LONGITUDE	
Control-C	14° 24.71'	South	170° 37.44'	West
Station 1	14° 24.39'	South	170° 36.96'	West
Station 2	14° 24.45'	South	170° 37.21'	West
Station 3	14° 24.38'	South	170° 37.47'	West
Station 4	14° 24.27'	South	170° 37.68'	West
Station 5	14° 24.26'	South	170° 38.00'	West

1.60 V

16.8

6.32 M

4473 W

PLOT #1
Ocean Monitoring Sample Stations,
Control (C) & Stations #1 - #5
01 July, 2010

M. Crook

1423.17 \$

Center of dump zone
14°24.0 S 170°38.3 W

1425.26 \$

Current set: Northwesterly

Ocean Disposal Site Monitoring Report

(OD Permit 93-01 & 93-02)

05 August, 2010

Monitoring Vessel:

F/V Blue Moon

Discharge Vessel:

F/V Blue Moon

Chief Investigator:

Mike Crook

Starkist Samoa Liaison:

Joe Carney

COS/Samoa Packing

Sam Augspurger

Determination of Sampling Positions:

All positions & drift rates obtained by
GPS Satellite Navigation.

Mike Crook
P.O. Box 4933
Pago Pago, AS 96799
10 August, 2010

Introduction

On August 05, 2010 the tank-ship *Blue Moon* departed Starkist Samoa dock bound for the designated ocean dump-site area approximately seven miles south of Pago Pago Harbor, American Samoa, on a routine wastewater disposal operation and for the purpose of monitoring this disposal of tuna cannery generated hi-strength liquid wastes into the waters of the Pacific Ocean. This monitoring and reporting were conducted in compliance with general permit conditions and Appendix A of Ocean Dumping Permits OD 93-01 & OD 93-02.

Chronology of Events

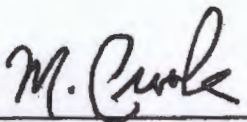
- 0510:** The *Blue Moon* departed Pago Pago Harbor bound for the dump-site location with Master/Principal Investigator, Chief and Mate on-board.
- 0602:** The *Blue Moon* entered the dumpzone circle @ 14°22.6' S / 170°38.7' W.
- 0613:** The *Blue Moon* arrived at the dump-zone center, where observed easterly winds and slight to moderate east/southeasterly seas indicated disposal operations be conducted in the east dump-zone quadrant.
- 0625:** Control Station Monitoring. The *Blue Moon* arrived 1.1 nautical miles (NM) up-current or east of the dump-zone center, where discrete seawater samples were taken from depths of 1, 3, and 10 meters. Water temperatures, color, pH and observed sea/sky conditions with stations' position were recorded (Table 1). Seas at this time were slight to moderate with east & SE swells to 1.5 meters and an east wind of 15 knots. Skies were partly cloudy with unlimited visibility and the barometer was at 29.69. Current set and drift of the ship were to the west at 0.9 knots. No floating materials or sea life were observed here.
- 0635:** The *Blue Moon* began disposal operations in the eastern dump zone quadrant and continued discharging material with a roughly, north to south, reciprocal, elliptical pattern (see Plot 1) until 0925 hrs.
- 0935:** Station One Monitoring. Discrete water samples were drawn from depths of 1, 3, and 10 meters. Water temperatures, pH, stations' position and water color observations were all recorded in Table 1. The east winds had increased to 18 knots with still partly cloudy skies. The waste plume in this area was very prominent as a heavy glassy surface sheen. The current/wind drift of the ship was now GPS determined to be westerly @ 1.1 knots. No sea life or floatable materials were observed.
- 0945:** Station Two Monitoring. Station two was sampled with the same

procedures as Station #1 with measurements and observations being recorded in Table 1. This position had no sign of the waste plume, including the typical glassy surface sheen, and appeared to be in the center space of the discharge pattern between the north and south running track lines as the plume moved, with its elliptical shape roughly intact, to the west (See Plot #1). The average drift rate of the ship with current and wind was GPS determined to be westerly at 1.1 knots between stations 2 & 3 (See Plot #1). No sea-life or floatable materials were noted at this position.

0955: Station Three Monitoring. Seawater samples were collected and measurements taken as with Stations 1 & 2. This position was in another clear area between the glassy track lines of the plume's elliptical pattern. The drift rate of the ship between Stations #3 & 4 was noted at 1.1 knots, again, to the west.

1005: Station Four Monitoring. Standard sampling procedures were again carried out as in previous stations. This position, 0.25 NM west of Station #3, showed the same visual characteristics of the waste plume as Station #1 and was, visually, the leading edge of the plume. Also noted was the presence of several patches of floating brownish surface scum of 5-7 square meters or less. In addition, suspended brownish particulate materials that appeared to be 0.5 cm or less in size, were observed extending down to the limit of visibility (about 3-4 meters). The westerly current/drift rate of the ship was again noted here to be at 1.0 knots.

1015: Station Five monitoring. Sampling for this final station was conducted 0.25 NM down-current (west) of Station #4 and approximately 0.35 NM east of the zone center (Plot #1). The waste plume was not visually present at this location which showed natural, clear blue ocean comparable to the color qualities of the Control Station. No notable sea life was observed at this position, or any of the previous stations, other than a few random seabirds flying by. The final barometer reading was 29.70 when monitoring activities were concluded at 1015 hrs. The *Blue Moon* exited the disposal zone at 1025 hours and arrived back in Pago Pago Harbor to deliver the collected seawater samples to the Starkist Samoa Co. laboratory at 1120 hours.

Prepared by 
Mike Crook, Principal Investigator

OCEAN DUMPING RESEARCH PERMIT: OD-93-01 & 02

Table 1

Date: 05 August, 2010	Sea Conditions: Slight-Moderate w/ East/Southeast swells to 1.5 meters.					Wind: East @ 15 - 18 knots	Visibility: Unlimited
	Barometer: 29.68 - 29.70		Current Set & Drift: West @ average 1.1 knots			Sky: Partly Cloudy; 30 - 40%	
Time	Station	Depth (meters)	Temp. (°C)	pH	Odor	Color	
0625	Control	1	26.1	7.3	None	Clear and natural deep pelagic blue w/ no floating or suspended materials.	
		3	26.1	7.3			
		10	26.1	7.3			
0935	Station 1	1	26.7	7.3	Pungent	Heavy glassy surface sheen over deep pelagic blue w/ no floating or suspended materials.	
		3	26.7	7.3			
		10	26.7	7.3			
0945	Station 2	1	26.7	7.3	Slightly Pungent	In the center of the plume ellipse, deep, clear blue water but surrounded by glassy track lines to the east and west of this position.. No floating or suspended materials.	
		3	26.7	7.3			
		10	26.7	7.3			
0955	Station 3	1	26.7	7.3	Slightly Pungent	Same situation as Station#2. No floating or suspended particulate materials.	
		3	26.7	7.3			
		10	26.7	7.3			
1005	Station 4	1	26.7	7.3	Pungent	Heavy oily surface sheen over clear blue w/ some occasional patches of floating brownish scum along with some suspended brownish particulate materials. The visible leading edge of the waste plume.	
		3	26.7	7.3			
		10	26.7	7.3			
1015	Station 5	1	26.7	7.3	Slightly Pungent	Same as Control Station	
		3	26.7	7.3			
		10	26.7	7.3			

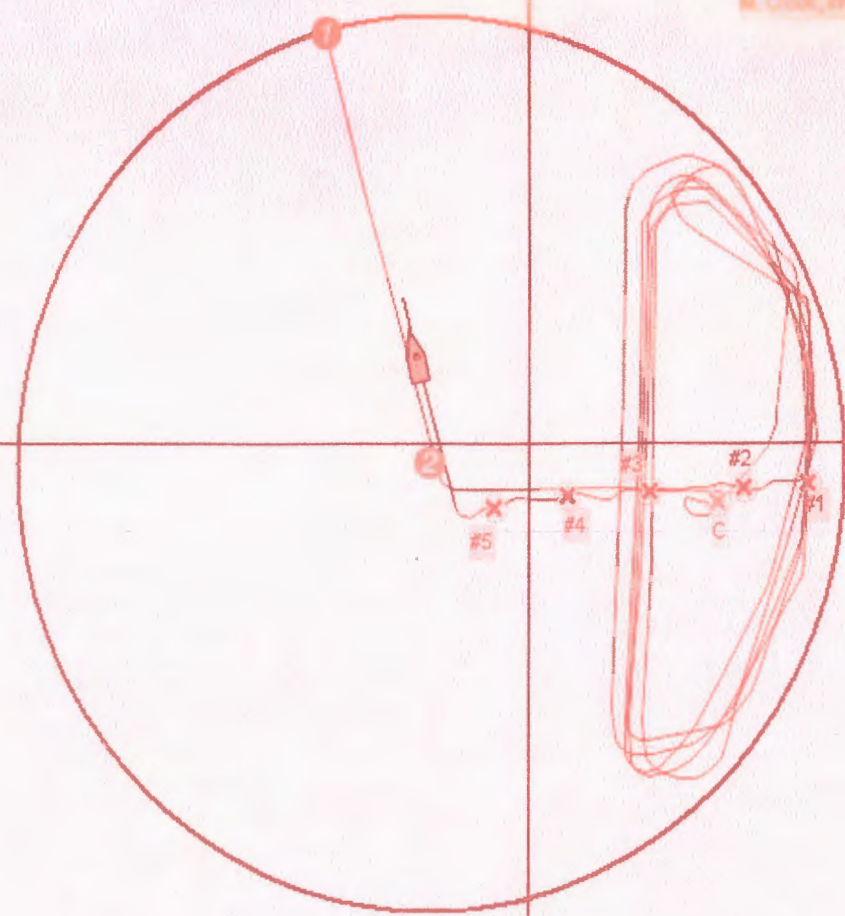
SAMPLE STATIONS POSITIONS

	LATITUDE		LONGITUDE	
Control-C	14° 24.11'	South	170° 37.21'	West
Station 1	14° 24.05'	South	170° 36.89'	West
Station 2	14° 24.07'	South	170° 37.20'	West
Station 3	14° 24.10'	South	170° 37.44'	West
Station 4	14° 24.11'	South	170° 37.75'	West
Station 5	14° 24.12'	South	170° 37.96'	West

Mapping Landing Stations
Coast (C) and Stations #1 - #5
05 August, 2010
M. Crook
M. Crook, Investigator

Disposal Zone Center:
14°24.0' S x 170°38.3' W

1423.94 S



←
Current: West

2010

Ocean Disposal Site Monitoring Report

(OD Permit 93-01 & 93-02)

02 September, 2010

Monitoring Vessel	M/V Blue Moon
Discharge Vessel	M/V Blue Moon
Chief Investigator	Mike Crook
Starkist Sampa Co. Liaison	Joe Carney
COS Samoa Packing Liaison	Sam Augspurger
Determination of Sampling Positions	All positions obtained by Global Positioning Satellite Navigation (GPS)

Mike Crook

P.O. Box 4913 Pago Pago, AS

00085

Introduction

On September 02, 2010 the tank-ship *Blue Moon* departed Starkist Samoa dock bound for the designated ocean dumpsite area approximately seven miles south of Pago Pago Harbor, American Samoa, on a routine wastewater disposal operation and for the purpose of monitoring this disposal of tuna cannery generated hi-strength liquid wastes into the waters of the Pacific Ocean. This monitoring and reporting were conducted in compliance with general permit conditions and Appendix A of Ocean Dumping Permits OD 93-01 & OD 93-02.

Chronology of Events

- 0605:** The *Blue Moon* departed Pago Pago Harbor bound for the dumpsite location with Master, Principal Investigator, Chief and Mate onboard.
- 0657:** The *Blue Moon* entered the dumpzone circle @ 14°22.3' S / 170°38.5' W.
- 0708:** The *Blue Moon* arrived at the dump-zone center, where observed southeasterly winds and slight southeasterly seas initially indicated disposal operations be conducted in the southeast dump-zone quadrant.
- 0715:** Control Station Monitoring. The *Blue Moon* arrived 1.1 nautical miles (NM) up-current or southeast (SE) of the dumpzone center, where discrete seawater samples were taken from depths of 1, 3, and 10 meters. Water temperatures, color, pH and observed sea/sky conditions with stations' position were recorded (Table 1). Seas at this time were slight with SE swells to 1.5 meters and a southeast wind of 15 knots. Skies were partly cloudy with unlimited visibility and the barometer reading 29.72 Current set and drift, of the ship, were to the northwest at 0.7 knots. No floating materials or sea life were observed here.
- 0725:** The *Blue Moon* began disposal operations in the SE dump zone quadrant and continued discharging material with a northeast to southwest reciprocal, elongated elliptical/triangular pattern (see Plot 1) until 1020 hrs.
- 1030:** Station One Monitoring. Discrete water samples were drawn from depths of 1, 3, and 10 meters. Water temperatures, pH, stations' position and water color observations were all recorded in Table 1. The SE winds had

Introduction

On September 02, 2010 the tank-ship *Blue Moon* departed Starkist Samoa dock bound for the designated ocean dumpsite area approximately seven miles south of Pago Pago Harbor, American Samoa, on a routine wastewater disposal operation and for the purpose of monitoring this disposal of tuna cannery generated hi-strength liquid wastes into the waters of the Pacific Ocean. This monitoring and reporting were conducted in compliance with general permit conditions and Appendix A of Ocean Dumping Permits OD 93-01 & OD 93-02.

Chronology of Events

- 0605: The *Blue Moon* departed Pago Pago Harbor bound for the dumpsite location with Master, Principal Investigator, Chief and Mate onboard.
- 0657: The *Blue Moon* entered the dumpzone circle @ 14°22.3' S / 170°38.5' W.
- 0708: The *Blue Moon* arrived at the dump-zone center, where observed southeasterly winds and slight southeasterly seas initially indicated disposal operations be conducted in the southeast dump-zone quadrant.
- 0715: Control Station Monitoring. The *Blue Moon* arrived 1.1 nautical miles (NM) up-current or southeast (SE) of the dumpzone center, where discrete seawater samples were taken from depths of 1, 3, and 10 meters. Water temperatures, color, pH and observed sea/sky conditions with stations' position were recorded (Table 1). Seas at this time were slight with SE swells to 1.5 meters and a southeast wind of 15 knots. Skies were partly cloudy with unlimited visibility and the barometer reading 29.72 Current set and drift, of the ship, were to the northwest at 0.7 knots. No floating materials or sea life were observed here.
- 0725: The *Blue Moon* began disposal operations in the SE dump zone quadrant and continued discharging material with a northeast to southwest reciprocal, elongated elliptical/triangular pattern (see Plot 1) until 1020 hrs.
- 1030: Station One Monitoring. Discrete water samples were drawn from depths of 1, 3, and 10 meters. Water temperatures, pH, stations' position and water color observations were all recorded in Table 1. The SE winds had

increased to 18 knots with still partly cloudy skies (40%). The waste plume was either dissipated here or had moved off to the northwest as there was very little of the typical tell-tale surface sheen or water discoloration visible. The current/wind drift of the ship was now GPS determined to be northwesterly @ 1.2 knots. No sea life or floatable materials were observed.

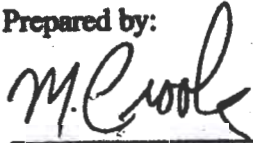
1040: Station Two Monitoring. Station two was sampled with the same procedures as station one with measurements and observations being recorded in Table 1. This position had only a few light and scattered streaks of the characteristic glassy surface sheen of the waste plume. The drift rate of the ship with current and wind was GPS determined to be northwesterly (NW) at 1.1 knots between stations 2 & 3. No sea-life or floatable materials were noted at this position.

1050: Station Three Monitoring. Seawater samples were collected and measurements taken as with Stations 1 & 2. This position was in another area of broken patches of light glassy surface sheen over clear blue water. The drift rate of the ship between stations 3 & 4 was steady at 1.1 knots again, to the NW.

1100: Station Four monitoring. Standard sampling procedures were again carried out as in previous stations. This position, 0.25 NM, NW of Station #3, had the same visual absence of the waste plume as Station #1 with just natural clear blue water. There were no floating or suspended materials. The NW current/drift rate of the ship was again noted here to be at 1.0 knots.

1110: Station Five monitoring. Sampling for this final station was conducted at the visual leading edge of the waste plume and approximately 0.25 NM SSW of the zone center (Plot #1). The waste plume was barely visible at this location which was mostly natural, clear blue ocean with a few, barely visible, streaks of surface sheen. No notable sea life was observed at this position, or any of the previous stations, other than a few random seabirds, mainly white Terns, flying by. The final barometer reading was 29.75 when monitoring activities were concluded at 1115 hrs. The *Blue Moon* exited the disposal zone at 1125 hours and arrived back in Pago Pago Harbor to deliver the collected samples to the Starkist Samoa Co. laboratory at 12:20 PM.

Prepared by:

A handwritten signature in black ink, appearing to read "M. Crook", written over a horizontal line.

Mike Crook, Principal Investigator
03 September, 2010

OCEAN DUMPING RESEARCH PERMIT: OD-93-01 & 02

Table 1

Date: 02 September 2010	Sea Conditions: Slight-Moderate w/ Southeast swells to 1.5 meters.				Wind: Southeast @ 15 - 18 knots		Visibility: Unlimited	
	Barometer: 29.72 - 29.75		Current Set & Drift Rate: Northwest @ average 1.1 knots			Sky: Partly Cloudy, 30 - 40%		
Time	Station	Depth (meters)	Temp. (°C)	pH	Odor	Color		
0715	Control	1	26.7	7.3	None	Clear and natural deep pelagic blue w/ no floating or suspended materials.		
		3	26.7	7.3				
		10	26.7	7.3				
1030	Station 1	1	26.7	7.3	None	Same as Control Station color characteristics. Waste plume not extensively visible, appeared to be mostly dissipated		
		3	26.7	7.3				
		10	26.7	7.3				
1040	Station 2	1	26.7	7.3	Slightly Pungent	A few light and scattered streaks of glassy surface sheen. No floating or suspended materials.		
		3	26.7	7.3				
		10	26.7	7.3				
1050	Station 3	1	27.2	7.3	Slightly Pungent	Same situation as Station #2. No floating or suspended particulate materials.		
		3	26.7	7.3				
		10	26.7	7.3				
1100	Station 4	1	27.2	7.3	None	No visible evidence of the wastewater plume sheen in the vicinity of this position. No floating or suspended materials noted either.		
		3	26.7	7.3				
		10	26.7	7.3				
1110	Station 5	1	27.2	7.3	Slightly Pungent	Leading edge of the waste plume. A very few light and widely scattered streaks of semi-glassy surface sheen with clear, blue, natural appearing seas further down-current to the northwest.		
		3	26.7	7.3				
		10	26.7	7.3				

SAMPLE STATIONS POSITIONS

	LATITUDE		LONGITUDE	
Control-C	14° 24.57'	South	170° 37.27'	West
Station 1	14° 24.59'	South	170° 37.25'	West
Station 2	14° 24.52'	South	170° 37.52'	West
Station 3	14° 24.45'	South	170° 37.83'	West
Station 4	14° 24.33'	South	170° 38.07'	West
Station 5	14° 24.24'	South	170° 38.32'	West

NA

170 39.32 W

170 35.44 W

14 21.36 S

PLOT #1
Ocean Monitoring Sampling Stations
Control (C) and Stations #1 - #5
02 September, 2010

M. Crook

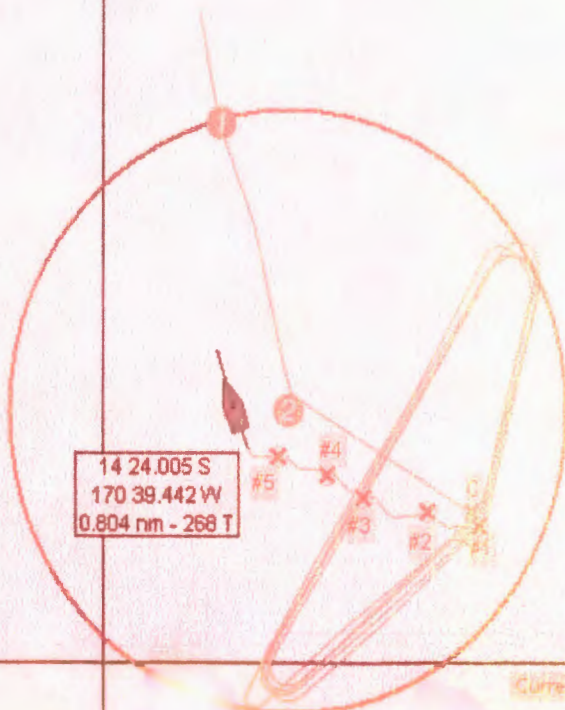
M. Crook, Investigator

Disposal Zone Center:
14°24.0' S x 170°39.3' W

14 24.005 S
170 39.442 W
0.804 nm - 268 T

14 25.24 S

Current set: Northwest

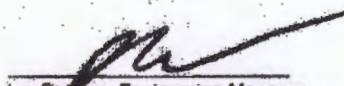


STAR KIST SAMOA, CO
P. O. BOX 388, PAGO PAGO AMERICAN SAMOA 96799
WATER TREATMENT DEPARTMENT

REPORT OF ANALYSIS RESULTS

SAMPLE TYPE : Sea Water - Ocean Monitoring Sampling - September, 02 2010
 REPORTING DATE : October 06 2010

SAMPLES	AMMONIA (mg N/L)	TOTAL NITROGEN (mg N/L)	TOTAL PHOSPHORUS (mg P/L)	NON FILTERABLE RESIDUE (mg/L)	VOLATILE NON FILTERABLE RESIDUE (mg/L)	OIL & GREASE (mg / L)
Stn : 1-1Mtr Control	0.033	0.30	0.025	5.5	2.5	0.57
Stn : 1-3 Mtr Control	0.025	0.25	0.015	4.5	2.5	0.38
Stn : 1-10 Mtr Control	0.033	0.25	0.015	5.5	2.0	0.24
Stn : 1-1Mtr	0.023	0.35	0.025	4.0	3.5	0.38
Stn : 1-3 Mtr	0.018	0.35	0.005	5.5	2.5	0.62
Stn : 1-10 Mtr	0.025	0.30	0.010	4.5	2.0	0.53
Stn : 2-1 Mtr	0.037	0.30	0.015	5.0	2.5	0.25
Stn : 2-3 Mtr	0.040	0.30	0.020	5.0	3.5	0.38
Stn : 2-10 Mtr	0.029	0.20	0.020	5.5	3.0	0.37
Stn : 3-1 Mtr	0.038	0.35	0.025	5.0	2.5	0.37
Stn : 3-3 Mtr	0.040	0.30	0.015	5.5	2.5	0.51
Stn : 3-10 Mtr	0.017	0.20	0.005	4.5	2.5	0.48
Stn : 4-1 Mtr	0.028	0.25	0.015	6.0	2.5	0.35
Stn : 4-3 Mtr	0.019	0.40	0.015	5.0	2.5	0.66
Stn : 4-10 Mtr	0.038	0.15	0.010	4.5	3.5	0.50
Stn : 5-1 Mtr	0.033	0.30	0.020	5.5	2.5	0.49
Stn : 5-3 Mtr	0.038	0.30	0.010	5.5	3.0	0.35
Stn : 5-10 Mtr	0.019	0.35	0.015	4.5	2.5	0.51

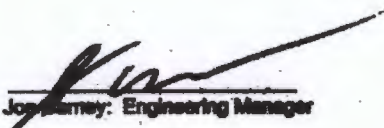

 Joe Coney: Engineering Manager

STAR KIST SAMOA, CO
P. O. BOX 388, PAGO PAGO AMERICAN SAMOA 96798
WATER TREATMENT DEPARTMENT

REPORT OF ANALYSES RESULTS

SAMPLE TYPE : Sea Water - Ocean Monitoring Sampling - August, 05 2010
REPORTING DATE : September- 07-10

SAMPLES	AMMONIA (mg N/L)	TOTAL NITROGEN (mg N/L)	TOTAL PHOSPHORUS (mg P/L)	NON FILTERABLE RESIDUE (mg/L)	VOLATILE NON FILTERABLE RESIDUE (mg/L)	OIL & GREASE (mg / L)
Stn : 1-1Mtr Control	0.030	0.35	0.015	5.5	2.5	0.38
Stn : 1-3 Mtr Control	0.030	0.15	0.005	5.0	2.5	0.24
Stn : 1-10 Mtr Control	0.026	0.20	0.020	4.0	2.0	0.22
Stn : 1-1Mtr	0.033	0.30	0.005	5.0	2.0	0.13
Stn : 1-3 Mtr	0.025	0.05	0.010	5.5	2.5	0.49
Stn : 1-10 Mtr	0.030	0.10	0.020	4.0	3.5	0.25
Stn : 2-1 Mtr	0.028	0.20	0.010	4.5	2.0	0.13
Stn : 2-3 Mtr	0.025	0.15	0.015	4.0	3.0	0.25
Stn : 2-10 Mtr	0.031	0.35	0.015	5.5	2.5	0.58
Stn : 3-1 Mtr	0.028	0.25	0.015	4.5	2.5	0.36
Stn : 3-3 Mtr	0.035	0.25	0.025	5.5	2.5	0.49
Stn : 3-10 Mtr	0.020	0.30	0.015	5.0	2.5	0.25
Stn : 4-1 Mtr	0.027	0.10	0.015	4.5	2.5	0.58
Stn : 4-3 Mtr	0.020	0.15	0.015	5.0	3.0	0.29
Stn : 4-10 Mtr	0.031	0.15	0.030	5.0	2.5	0.37
Stn : 5-1 Mtr	0.032	0.15	0.005	6.0	2.5	0.35
Stn : 5-3 Mtr	0.024	0.15	0.020	4.5	2.5	0.25
Stn : 5-10 Mtr	0.022	0.20	0.035	5.5	2.0	0.35

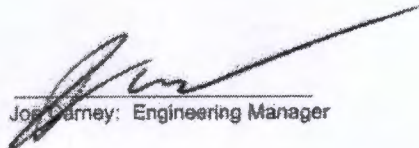

 Joe Jemey: Engineering Manager

STAR KIST SAMOA, CO
P. O. BOX 368, PAGO PAGO AMERICAN SAMOA 96799
WATER TREATMENT DEPARTMENT

REPORT OF ANALYSIS RESULTS

SAMPLE TYPE : Sea Water - Ocean Monitoring Sampling - July 01, 2010
REPORTING DATE : August - 11 - 10

SAMPLES	AMMONIA	TOTAL NITROGEN	TOTAL PHOSPHORUS	NON FILTERABLE RESIDUE	VOLATILE NON FILTERABLE RESIDUE	OIL & GREASE
	(mg N/L)	(mg N/L)	(mg P/L)	(mg/L)	(mg/L)	(mg / L)
Stn : 1-1Mtr Control	0.030	0.15	0.015	5.5	3.0	0.38
Stn : 1-3 Mtr Control	0.025	0.55	0.015	4.5	1.0	0.53
Stn : 1-10 Mtr Control	0.032	0.05	0.005	4.0	3.0	0.38
Stn : 1-1Mtr	0.021	0.00	0.010	5.0	2.0	0.50
Stn : 1-3 Mtr	0.038	0.25	0.020	4.0	1.5	0.23
Stn : 1-10 Mtr	0.025	0.05	0.015	4.5	2.5	0.34
Stn : 2-1 Mtr	0.033	0.15	0.010	5.0	2.0	0.11
Stn : 2-3 Mtr	0.041	0.10	0.015	5.0	2.5	0.48
Stn : 2-10 Mtr	0.022	0.15	0.015	4.5	2.5	0.45
Stn : 3-1 Mtr	0.020	0.15	0.025	6.0	2.0	0.35
Stn : 3-3 Mtr	0.039	0.10	0.010	4.5	1.5	0.56
Stn : 3-10 Mtr	0.038	0.20	0.025	5.0	2.0	0.50
Stn : 4-1 Mtr	0.042	0.25	0.015	5.0	2.5	0.25
Stn : 4-3 Mtr	0.027	0.10	0.020	5.0	2.5	0.47
Stn : 4-10 Mtr	0.033	0.30	0.025	4.0	2.0	0.45
Stn : 5-1 Mtr	0.036	0.25	0.005	5.0	3.0	0.25
Stn : 5-3 Mtr	0.021	0.25	0.025	5.0	2.0	0.49
Stn : 5-10 Mtr	0.038	0.30	0.030	5.5	3.0	0.38


Joe Carney: Engineering Manager